

CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

- 1 1. (Currently amended) A rate adaptive system for optical
2 communication networks comprising:
3 a plurality of optical transceivers capable of transmitting and receiving optical
4 signals at a plurality of rates to each other, and
5 an optical fibre linked to said optical transceivers, ~~wherein~~ said system is
6 configured to cause said optical transceivers to transmit and receive optical signals at
7 an initial rate and to adapt said initial rate based upon an error condition responsive to
8 an optical signal parameter by causing said optical transceivers to transmit and
9 receive at a different rate, wherein the error condition comprises one of a code word
10 violation and an optical modulation amplitude.
- 1 2. (Previously presented) The system of claim 1, wherein said error
2 condition is a failure to synchronize a received signal.
- 1 3. (Previously presented) The system of claim 1, wherein said system
2 is further configured to calculate an error coefficient based on said received signals,
3 and said error condition comprise said error coefficient exceeding a predefined range.
- 1 4. (Previously presented) The system of claim 1, wherein said initial
2 rate is lowered according to predefined percentages of said initial rate in response to
3 said error condition.
- 1 5. (Previously presented) The system of claim 4, wherein said
2 percentages are selected from the group of 75, 50 and or 25 percent of said initial rate.
- 1 6. (Previously presented) The system of claim 1, wherein said initial
2 rate is 10 Gb/s.

1 7. (Previously presented) The system of claim 1, wherein said system
2 is configured to operate in an optical Ethernet network.

1 8. (Previously presented) The system of claim 1, wherein said system
2 is further configured to notify a network operator in the event of said error condition.

1 9. (Currently amended) A rate adaptive method for operating an
2 optical communication network, comprising:
3 transmitting data at an initial rate,
4 receiving said data at said initial rate,
5 evaluating said data responsive to a parameter observed on an optical signal to
6 determine if an error condition exists, wherein the error condition comprises one of a
7 code word violation and an optical modulation amplitude, and
8 adapting said rate based upon said evaluation by transmitting and receiving at
9 a different rate.

1 10. (Previously presented) The method of claim 9, wherein adapting
2 said rate comprises lowering said initial rate according to predefined percentages of
3 said initial rate in response to said error condition.

1 11. (Previously presented) The method of claim 10, further comprising
2 notifying a network operator in the event of said error condition.

1 12. (Currently amended) An optical transceiver module for a rate
2 adaptive system for optical communication networks comprising
3 means for transmitting an optical signal via an optical fibre at a plurality of
4 optical signal rates,
5 means for receiving an optical signal transmitted at said plurality of optical
6 signal rates,
7 means for determining an error condition responsive to a parameter derived
8 from observation of the optical signal, wherein the error condition comprises one of a
9 code word violation and an optical modulation amplitude, and

10 means for adapting an optical signal transmission rate based upon the error
11 condition by transmitting and receiving at a different rate.

1 13. (Currently amended) A rate adaptive method for operating an
2 optical communication network, comprising:
3 transmitting test signals at an initial rate,
4 receiving said test signals at said initial rate,
5 evaluating said test signals to determine if an error condition exists, wherein
6 the error condition comprises one of a code word violation and an optical modulation
7 amplitude, and
8 adapting said rate based upon said evaluation by transmitting and receiving at
9 a different rate.